Dometic®

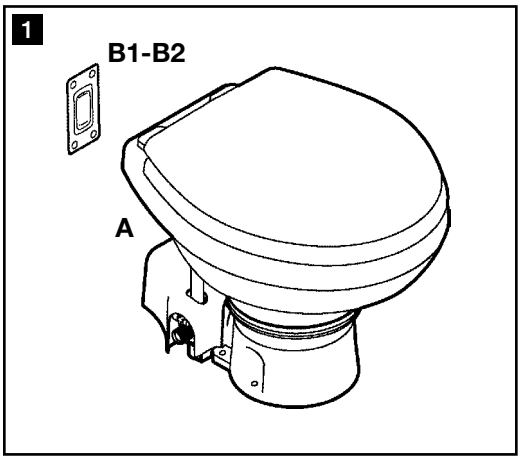
EN **Macerator Toilet**
Operation manual

7200 Series

7100 Series

MasterFlush® Series Toilets with ORBIT Base

Applies to toilet models
7120, 7160, 7220, 7260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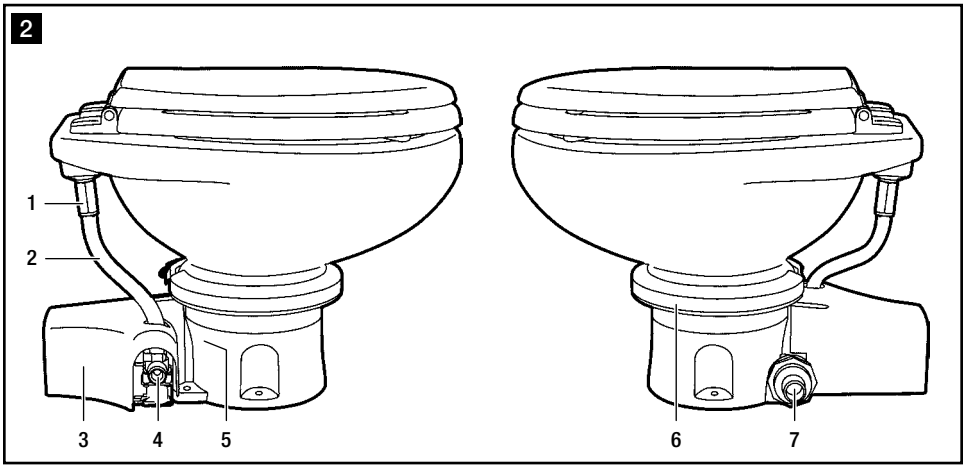
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1 Notes on using the manual

Caution!
Safety Instruction: Failure to observe this instruction can cause material damage and impair the function of the device.

Note
Supplementary information for operating the device.

fig. 1 A, page 2 : This refers to an element in an illustration. In this example, item A in figure 1 on page 2.

2 General safety instructions

The manufacturer will not be held liable for claims for damage resulting from the following:

- Faulty assembly or connection
- Damage to the unit from mechanical influences, misuse or abuse
- Alterations to the unit without express written permission from the manufacturer
- Use for purposes other than those described in the operating manual

2.1 Warnings – marine applications

The following statements must be read and understood before installing, servicing and/or operating this product on a boat. Modification of this product may result in property damage.

Dometic recommends that a qualified marine technician or electrician install or service this product. Equipment damage, injury to personnel or death could result from improper installation. DOMETIC ACCEPTS NO RESPONSIBILITY OR LIABILITY FOR DAMAGE TO EQUIPMENT, OR INJURY OR DEATH TO PERSONNEL THAT MAY RESULT FROM IMPROPER INSTALLATION, SERVICE OR OPERATION OF THIS PRODUCT.

Caution! Hazard of Flooding
If toilet is connected to ANY through-the-hull fittings, ALWAYS close seacocks when toilet is not in use (even if boat is unattended for a brief period). All passengers MUST be instructed on how to close valves when the toilet is not in use. Failure to do so can result in flooding which can cause loss of property and life.

Caution! Hazard of Flooding
If the toilet uses fresh water for flushing and is connected directly or indirectly to a shoreside municipal water system at ANY time, shoreside water connections MUST be disconnected if the boat is unattended (even if boat is unattended for a brief period). Failure to do so can result in flooding which can cause loss of property and life.

Caution! Hazard of Flooding
Before beginning any work on this product, be sure that all electrical power to the unit has been turned off and that seacocks are in the CLOSED or OFF position. Failure to do so can result in flooding which can cause loss of property and life.

Caution!
Overfilling the holding tank can create serious damage to the sanitation system, such as rupturing the holding tank and releasing tank contents into the bilge. To prevent this possibility, Dometic recommends using a “full” tank shut-down relay. The “full” signal from the holding tank can be generated by an optional Dometic DTM01C tank monitor or DTM04 four-level tank monitor system.

3 Intended use

Dometic MasterFlush series macerator toilet provides an electric-flush toilet that macerates waste and pumps it either to a holding tank or other effluent storage/disposal system, or overboard (follow local regulations for waste tank discharge). Operated by a remote flush switch, the toilet allows the user to add water to the bowl (before or after flushing) and to flush the toilet by pushing a button.

3.1 Benefits

Convenient electronic flush. Add water (freshwater version only) or flush with the touch of a button.

Versatile installation. Several features enhance the installation possibilities of 7100 and 7200 series macerator toilets:

- **Adjustable toilet base.** Toilet base can be positioned so that macerator pump housing extends in any direction from the center of the toilet.
- **Floorplan flexibility.** Macerator pump allows toilet to be located up to 40 ft. (12.2 m) away or up to 4 ft. (1.2 m) below holding tank or other discharge line destination.
- **Self-priming raw water pump (raw water flush version only).** Integral pump for raw flush water is self-priming with a maximum lift of 4 ft. (1.2 m).

Automatic “full tank” shut-down (optional installation - tank level monitor and shut-down relay required. Available separately). When the shutdown relay is connected to a holding tank level indication system, electrical power to the toilet shuts off when the holding tank is full. This safety feature prevents overfilling the holding tank, which may cause damage to the boat.

4 Components

Installed toilet (fig. **1** , page 2)

Ref.	Description
A	Macerator toilet
B1	DFS-2F flush switch (standard - freshwater flush toilet)
B2	DFS-1F flush switch (standard - raw water flush toilet)
NS	DFST flush switch (optional) NOT SHOWN - see page 6

Toilet components (fig. **2** , page 2)

Ref.	Description
1	Rim flush check valve (freshwater toilet) or adapter (raw water model)
2	Water supply hose
3	Macerator pump (under plastic cover)
4	Electric water valve
5	Product ID label location
6	Stainless steel compression band
7	Discharge fitting

Refer to complete parts list (packed separately) for additional information.

5 Specifications

5.1 Materials

Toilet: vitreous ceramic

Toilet base: polypropylene

Dometic flush switch panel: polystyrene (DFS-1F or DFS-2F); or powder-coated aluminum (DFST)

5.2 Minimum System Requirements

Electrical	Power draw	20 amps/12 V DC; 10 amps/24 V DC
	Circuit breaker	25 amps/12 V DC; 15 amps/24 V DC
	Wiring	12 ga. (up to 25 ft./7.6 m total circuit) Consult ABYC guidelines for additional information.
Water Supply	Fitting size Supply hose ID	0.5 in. NPT – fresh water flush toilet 0.75 in. ID – raw water flush toilet
	Flow rate	2.0 gpm/7.6 lpm minimum – fresh water flush
Discharge	Inside diameter	1.5 in./38 mm or 1 in./25 mm
	Horizontal run*	40 ft./12.2 m maximum
	Vertical run*	4 ft./1.2 m maximum

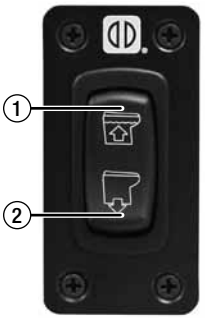
* Horizontal and vertical run distances are not cumulative. Check for adequate discharge flow if installation nears one of these limits.

Specifications are subject to change without notice.

6 Toilet Operation

Caution
Do not operate toilet without water supply turned on. Damage to internal components may occur.

6.1 **Freshwater Flush** (with DFS-2F switch)



6.1.1 Toilet system start-up

1. Turn on fresh water supply to toilet.
2. Press “Flush” switch (2) and hold for at least 10 seconds.
3. Toss several sheets of toilet paper into bowl and repeat cycle. The bowl should completely clear.

6.1.2 Normal flushing

ADDING WATER TO TOILET BOWL

Press “Add Water” switch (1) until desired water level is achieved. (Do not press “Add Water” switch too long or overflow may occur.) More water is usually added only when flushing solids.

FLUSHING TOILET

Press “Flush” switch (2) down and hold until waste drains from toilet bowl (about 10-20 seconds). This switch activates a macerator pump that siphons water and waste from the bowl, macerates, and propels the effluent to the discharge line/holding tank.

To use less water for liquid-only flushes, press “Flush” switch for shorter period of time.

6.2 **Freshwater Flush** (toilet with DFST switch)

6.2.1 Toilet system start-up

1. Turn on fresh water supply to toilet.
2. Press “Flush” switch (2) and hold for at least 10 seconds.
3. Toss several sheets of toilet paper into bowl and repeat cycle. The bowl should completely clear.

6.2.2 Normal toilet operation

ADDING WATER TO TOILET BOWL

Press “Add Water” switch (1) and hold until desired water level is achieved. (Do not press “Add Water” switch too long or overflow may occur.)

FLUSHING TOILET

Press “Flush” switch (2) down and hold until waste drains from toilet bowl (about 10-20 seconds). This switch activates a macerator pump that siphons water and waste from the bowl, macerates, and propels the effluent to the discharge line/holding tank. To use less water for liquid-only flushes, press “Flush” switch for shorter period of time.

“DRY BOWL” OPERATION

During periods of rough travel, water in a toilet bowl can splash out and into the bathroom area. To avoid this situation, press “Dry Bowl” switch (3) to drain water completely from toilet bowl. Water is not added to bowl during or after pressing the “Dry Bowl” switch.

Caution – Do Not Flush Waste with "Dry Bowl" Switch!
To maintain proper cleanliness and operation of the toilet and macerator pump, water should be used with every flush.

Caution – Do Not Flush Foreign Objects!
Flush only water, bodily wastes and rapid-dissolving toilet tissue. Do not flush wet wipes, sanitary napkins, condoms, diapers, paper cups, cotton swabs, food, hair or liquids such as oils or solvents as clogging or damage to the toilet or toilet system may occur.

Note
Make sure all guests understand toilet operation before use.

6.3 Toilet operation when connected to "full tank" shut-down relay and tank monitor system

When a Dometic macerator toilet system uses a "full tank" shut-down relay, electrical power to the toilet is shut off when the holding tank level reaches "full". To restore electrical power to the toilet for flushing, holding tank contents must be emptied or discharged until the "full" tank indicator is not activated.

6.4 Raw Water Flush

6.4.1 Toilet system start-up (toilet with DFS-1F switch)

1. **Open raw water inlet and toilet discharge outlet seacocks.**
2. Press "Flush" switch (1) and hold for at least 10 seconds.
3. Toss several sheets of toilet paper into bowl and repeat cycle. The bowl should completely clear.

6.4.2 Normal toilet operation

FLUSHING TOILET

Press "Flush" switch (1) down and hold until waste drains from toilet bowl (about 10-20 seconds). This switch activates a macerator pump that siphons water and waste from the bowl, macerates, and propels the effluent to the discharge line.

To use less water for liquid-only flushes, press "Flush" switch for shorter period of time.

If toilet bowl does not completely flush and fills up with raw water during flush, partially close inlet valve until bowl clears and completely discharges effluent. Then, with inlet and discharge valves completely open, flush toilet for a few seconds to clear toilet and discharge system.

Caution! Hazard of Flooding
If toilet is connected to ANY through-the-hull fittings, ALWAYS close seacocks when toilet is not in use (even if boat is unattended for a brief period). All passengers MUST be instructed on how to close valves when the toilet is not in use. Failure to do so can result in flooding which can cause loss of property and life.

Caution – Do Not Flush Foreign Objects!
Flush only water, bodily wastes and rapid-dissolving toilet tissue. Do not flush wet wipes, sanitary napkins, condoms, diapers, paper cups, cotton swabs, food, hair or liquids such as oils or solvents as clogging or damage to the toilet or toilet system may occur.

Note
Make sure all guests understand toilet operation before use.

7 Maintenance and winterizing

7.1 Cleaning the toilet

To maintain the toilet's original, lustrous appearance, use Dometic® Toilet Bowl Cleaner or other non-abrasive bathroom and toilet bowl cleaners. Please follow label directions.

Caution
To avoid damaging internal seals, do not clean toilet with abrasive cleaners, caustic chemicals, or lubricants and cleaners that contain alcohols or petroleum distillates.

7.2 Routine maintenance

MONTHLY

1. Inspect toilet, plumbing, and plumbing connections, wires, and wire connections.
2. Open and close all plumbing valves, including seacocks.
3. Check in-line water filters and vented loops for blockage.

YEARLY

Check water valve filter. Also check water valve filter if water flow into toilet becomes insufficient.

7.3 During extended periods of non-use

The macerator toilet and sanitation hoses should be protected if toilet will not be needed for an extended period of time (more than two weeks, especially in hot weather).

1. Flush toilet and add 4 oz. (118 ml) of liquid biodegradable laundry detergent (should NOT contain bleach or environmentally harmful substances). Note: If using raw water for flushing, shut off power to raw water pump and add fresh water directly into the bowl during the flush cycle.
2. Flush toilet at least five times.
3. Turn off water supply to toilet.
4. Flush the toilet without water very briefly to evacuate all water. (This procedure will minimize any remaining water in the macerator pump.)

Caution
During water evacuation process, do not operate raw water pump very long without water. Pump impeller may become damaged.

5. Turn off power to the toilet.
6. After extended periods of non-use, toilet and pump may dry. For easier re-start of toilet system, add one quart of water to bowl and let it stand for a few minutes before use.

7.4 Winterizing

At the end of each season, the Dometic macerator toilet should be winterized for storage by using potable water-safe antifreeze (if boat or vehicle will be exposed to freezing temperatures).

If system will be subjected to freezing temperatures, please follow procedures in section 7.3, “During extended periods of non-use”, and then winterize system as described here.

Note
Use nontoxic antifreeze designated for potable water systems. (See boat or vehicle owner’s manual.)

Caution
Never use automotive-type antifreeze in freshwater systems.

PRESSURIZED FRESH WATER SYSTEM

1. Drain potable water tank and empty holding tank.
2. Add freshwater antifreeze to potable water tank.
3. Flush potable water antifreeze and water mixture through toilet(s) and into entire system, including the waste holding tank, diverter valve connections, discharge pumps, etc. Turn off power to toilet.

   Each installation is different, so amounts may vary. User discretion is required to assure adequate protection.

RAW WATER SYSTEM

Parts required:
- Hose that fits raw water pump, about 3 ft. (1 m) long
- one container

1. Close intake and discharge seacocks. See Hazard of Flooding risks in this manual.
2. Turn off power to toilet.
3. Disconnect and drain intake hose and in-line filters.
4. Connect hose to raw water pump intake.
5. Place hose connected to pump intake into bucket with antifreeze in it.
6. Turn on power to toilet and flush until antifreeze is removed from toilet.
7. Disconnect power to toilet and reconnect all intake and drain hoses.

8 Troubleshooting

Problem	Possible Cause	Service Instruction
1. Flush function works, but water in bowl empties slowly or not at all.	a. Discharge piping is pinched or kinked. b. Discharge piping is too high. (Remember, all upward vertical loops and should not exceed a total of 4 feet (1.2 m) in height.) c. The macerator pump or discharge piping is blocked.	a. Check discharge piping. b. Reroute discharge piping. c. Close seacocks and clear blockage.
2. Macerator pump makes unusually loud noise or continually trips breaker.	a. Foreign material in pump chamber.	a. Close seacocks and clear foreign material.
3. Flush cycle is not activated after pushing on flush switch.	a. Holding tank is full and signal from tank has shut down electrical power to toilet. b. Electrical power to toilet is shut off or disrupted. c. Flush switch is malfunctioning.	a. Empty holding tank. b. Check wiring and circuit breakers (or fuses). c. Replace flush switch.
4. Insufficient or no water enters the bowl.	a. Water supply line is pinched or kinked. b. Screen in water valve is blocked. c. Intake water filters are blocked (in raw water system). d. Water valve is malfunctioning.	a. Check water supply line. b. Clear blockage at water valve. c. Clear water filters. d. Replace water valve.

9 Warranty and product liability

North America and Rest of the World:

Manufacturer's One-Year Limited Warranty

Dometic Corporation, Sanitation Division warrants to the original purchaser only that this product, if used for personal or private purposes, is free from defects in material and workmanship for a period of one year from the date of purchase.

If this Dometic product is placed in commercial or business use, it will be warranted to the original purchaser only to be free of defects in material and workmanship for a period of ninety (90) days from the date of purchase.

Dometic reserves the right to replace or repair any part of this product that proves, upon inspection by Dometic, to be defective in material or workmanship. All labor and transportation costs or charges incidental to warranty service are to be borne by the purchaser-user.

EXCLUSIONS

IN NO EVENT SHALL DOMETIC BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, FOR DAMAGES RESULTING FROM IMPROPER INSTALLATION, OR FOR DAMAGES CAUSED BY NEGLECT, ABUSE, ALTERATION OR USE OF UNAUTHORIZED COMPONENTS. ALL IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, ARE LIMITED TO A PERIOD OF ONE YEAR FROM DATE OF PURCHASE.

IMPLIED WARRANTIES

No person is authorized to change, add to, or create any warranty or obligation other than that set forth herein. Implied warranties, including those of merchantability and fitness for a particular purpose, are limited to one (1) year from the date of purchase for products used for personal or private purposes, and ninety (90) days from the date of purchase for products placed in commercial or business use.

OTHER RIGHTS

Some states do not allow limitations on the duration of an implied warranty and some states do not allow exclusions or limitations regarding incidental or consequential damages; so, the above limitations may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

To obtain warranty service, first contact your local dealer from whom you purchased this product or go to http://www.dometic.com for a dealer near you.

Europe:

Warranty and Customer Service

Warranty arrangements are in accordance with EC Directive 44/1999/CE and the normal conditions applicable for the country concerned. For warranty or other service, please contact our Dometic Service department listed elsewhere in this manual. Any damage due to improper use is not covered by the warranty.

The warranty does not cover any modifications to the product or the use of non-original Dometic parts; the warranty does not apply if the installation and operating instructions are not adhered to and no liability shall be entertained.

Product Liability

Product liability of Dometic Group and its subsidiary companies does not include damages which may arise from: faulty operation; improper alterations or intervention in the equipment; adverse effects from the environment which may impact the equipment itself or the direct vicinity of the equipment or persons in the area.

To obtain warranty service, first contact your local dealer from whom you purchased this product or go to http://www.dometic.com for a dealer near you.

10 Customer service

There is a strong, worldwide network to assist in servicing and maintaining your sanitation system. For the Authorized Service Center near you, please call from 8:00 a.m. to 5:00 p.m. (ET) Monday through Friday.

You may also contact or have your local dealer contact the Parts Distributor nearest you for quick response to your replacement parts needs. They carry a complete inventory for the Dometic Sanitation product line.

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600347001 10/13

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